

SEQUENCE LISTING

<110> Dhugga, Kanwarpal S.

<120> Genes for Galactomannan Production in Plants and Methods of Use

<130> 1520

<150> 60/426,127

<151> 2002-11-14

<150> 60/490,022

<151> 2003-07-25

<160> 10

<170> FastSEQ for Windows Version 4.0

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<212> DNA

<213> *Cyamopsis tetragonoloba*

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<212> PRT

<213> *Cyamopsis tetragonoloba*

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65 70 75 80
Lys Gln Lys Leu Glu Arg Ser Lys Lys Tyr Pro Met Val Leu Ile Gln
85 90 95
Ile Pro Met Tyr Asn Glu Lys Glu Val Tyr Lys Leu Ser Ile Gly Ala
100 105 110
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Gln Lys Trp Ile Gln Lys Gly Val Asn Val Lys Tyr Glu Asn Arg Arg
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Asn Arg Asn Gly Tyr Lys Ala Gly Ala Leu Lys Glu Gly Leu Glu Lys
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Phe Ser Val Glu Gln Glu Val Gly Ser Ser Thr Tyr Ser Phe Phe Gly
245 250 255
Phe Asn Gly Thr Ala Gly Val Trp Arg Ile Gln Ala Ile Lys Asp Ala
260 265 270
Gly Gly Trp Lys Asp Arg Thr Thr Val Glu Asp Met Asp Leu Ala Val
275 280 285
Arg Ala Ser Leu His Gly Trp Glu Phe Val Phe Val Gly Asp Val Lys
290 295 300
Val Lys Asn Glu Leu Pro Ser Thr Phe Lys Ala Tyr Arg Phe Gln Gln
305 310 315 320
His Arg Trp Ser Cys Gly Pro Ala Asn Leu Phe Lys Lys Met Thr Lys
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Ile Tyr Ala Phe Phe Val Arg Lys Ile Val Ala His Trp Val Thr
355 360 365
Phe Phe Phe Tyr Cys Ile Val Ile Pro Ala Cys Val Ile Val Pro Glu
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 <213> *Cyamopsis tetragonoloba*

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 ggcgaccact tgctgttacg gtttttaag aacaaggtgg attactgtcg gttacacggg 480
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 tacccgggtgg tgcggggccgc gatgatggcc caccggaaag ccgagtggat ctgggtggtc 600
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 <211> 445
 <212> PRT

<213> Cyamopsis tetragonoloba

<400> 4

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Val Trp Gly Phe Ser Ser Phe Thr Thr Pro Ile Pro Asn Glu Thr Pro
35 40 45
Thr Phe Glu Ser Leu Ser Val Asn Ser His Gln Asn Asp Ala Val Ser
50 55 60
Arg Gly Gly Pro Asp Phe Arg Phe Asp Pro Pro Asp Arg Thr Phe Tyr
65 70 75 80
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85 90 95
Asp Ala Lys Arg Glu Glu Trp Leu Arg Leu His Pro Ser Phe Ala Ala
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Gly Ala Arg Glu Arg Val Leu Val Val Thr Gly Ser Gln Pro Ala Pro
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Cys Arg Asn Pro Ile Gly Asp His Leu Leu Leu Arg Phe Phe Lys Asn
130 135 140
Lys Val Asp Tyr Cys Arg Leu His Gly Tyr Asp Ile Val Tyr Asn Asn
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Ala Leu Leu His Pro Lys Met Phe Thr Tyr Trp Ala Lys Tyr Pro Val
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Val Arg Ala Ala Met Met Ala His Pro Glu Ala Glu Trp Ile Trp Trp
180 185 190
Val Asp Ser Asp Ala Leu Phe Thr Asp Met Glu Phe Lys Leu Pro Leu
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Asp His Tyr Lys Asp His Asn Leu Val Val His Gly Trp Ala His Leu
210 215 220
Ile His Glu Lys Arg Ser Trp Thr Gly Leu Asn Ala Gly Val Phe Leu
225 230 235 240
Ile Arg Asn Cys Gln Trp Ser Leu Asp Phe Ile Asn Glu Trp Ala Ser
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Met Gly Pro Gln Thr Pro Asn Tyr Glu Lys Trp Gly Gln Thr Leu Lys
260 265 270
Ser Thr Phe Lys Asp Lys Phe Phe Pro Glu Ser Asp Asp Gln Thr Gly
275 280 285
Leu Ala Tyr Leu Ile Ala Ile Glu Lys Glu Lys Trp Ala Asp Lys Ile
290 295 300
Tyr Leu Glu Asn Ser Tyr Tyr Phe Glu Gly Tyr Trp Glu Glu Ile Val
305 310 315 320
Gly Thr Phe Glu Asn Ile Ser Lys Lys Tyr Asn Glu Ile Glu Thr Gly
325 330 335
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340 345 350
Gly Glu Glu Arg Glu Lys Tyr Leu Thr Glu Ala Gly Asn Gly Lys Gly
355 360 365
Ser Trp Arg Arg Pro Phe Val Thr His Phe Thr Gly Cys Gln Pro Cys
370 375 380
Ser Gly Lys Tyr Asn Ala Met Tyr Asn Ala Glu Asp Cys Trp Asn Gly
385 390 395 400
Met Arg Lys Ala Leu Asn Phe Ala Asp Asn Gln Val Met Arg Lys Tyr
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<213> Cyamopsis tetragonoloba

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<213> Cyamopsis tetragonoloba

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35 40 45
Asn Ser Val Ala Thr Ser Leu Arg Ser Leu Asn Phe Pro Lys Asn Pro
50 55 60
Ala Ala Thr Leu Pro Pro Asn Leu Gln His Asp Pro Pro Asp Thr Thr
65 70 75 80
Phe Tyr Asp Asp Pro Glu Thr Ser Tyr Thr Met Asp Lys Pro Met Lys
85 90 95
Asn Trp Asp Glu Lys Arg Lys Glu Trp Leu Leu His His Pro Ser Phe
100 105 110
Gly Ala Ala Ala Arg Asp Lys Ile Leu Leu Val Thr Gly Ser Gln Pro
115 120 125

Lys Arg Cys His Asn Pro Ile Gly Asp His Leu Leu Leu Arg Phe Phe
 130 135 140
 Lys Asn Lys Val Asp Tyr Cys Arg Leu His Asn Tyr Asp Ile Ile Tyr
 145 150 155 160
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 Pro Val Ile Arg Ala Ala Met Met Ala His Pro Glu Val Glu Trp Val
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 Trp Trp Val Asp Ser Asp Ala Val Phe Thr Asp Met Glu Phe Lys Leu
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 210 215 220
 Gly Leu Val Arg Leu Asn His Ser Trp Thr Gly Leu Asn Ala Gly Val
 225 230 235 240
 Phe Leu Ile Arg Asn Cys Gln Trp Ser Leu Glu Phe Met Asp Val Trp
 245 250 255
 Val Ser Met Gly Pro Gln Thr Pro Glu Tyr Glu Lys Trp Gly Glu Arg
 260 265 270
 Leu Arg Glu Thr Phe Lys Asp Lys Val Leu Pro Asp Ser Asp Asp Gln
 275 280 285
 Thr Ala Leu Ala Tyr Leu Ile Ala Thr Asp Asn Lys Asp Thr Trp Arg
 290 295 300
 Glu Lys Ile Phe Leu Glu Ser Glu Tyr Tyr Phe Glu Gly Tyr Trp Leu
 305 310 315 320
 Glu Ile Val Lys Thr Tyr Glu Asn Ile Ser Glu Arg Tyr Asp Glu Val
 325 330 335
 Glu Arg Lys Val Glu Gly Leu Arg Arg Arg His Ala Glu Lys Val Ser
 340 345 350
 Glu Lys Tyr Gly Ala Met Arg Glu Glu Tyr Leu Lys Asp Asn Lys Arg
 355 360 365
 Arg Pro Phe Ile Thr His Phe Thr Gly Cys Gln Pro Cys Asn Gly His
 370 375 380
 His Asn Pro Ala Tyr Asn Ala Asn Asp Cys Trp Asn Gly Met Glu Arg
 385 390 395 400
 Ala Leu Asn Phe Ala Asp Asn Gln Ile Leu Arg Thr Tyr Gly Tyr His
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 Pro Ala Ala
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<210> 7
 <211> 269
 <212> PRT
 <213> *Cyamopsis tetragonoloba*

<400> 7
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 Tyr Glu Asn Arg Arg Asn Arg Asn Gly Tyr Lys Ala Gly Ala Leu Lys

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Ser	Leu	Asp	Tyr	His	Phe	Ser	Val	Glu	Gln	Glu	Val	Gly	Ser	Ser	Thr
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165															175
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180															190
Met	Asp	Leu	Ala	Val	Arg	Ala	Ser	Leu	His	Gly	Trp	Glu	Phe	Val	Phe
195															205
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210															220
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 <213> Cyamopsis tetragonoloba

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<210> 10

<211> 342

<212> PRT

<213> *Cyamopsis tetragonoloba*

<400> 10

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Lys	Trp	Ile	Phe	Gln	Lys	Leu	Asp	Phe	Lys	Phe	Pro	Leu	Ser	Val	Ser
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Cys	Val	His	Phe	Ile	Cys	Ser	Ala	Ile	Gly	Ala	Tyr	Ile	Val	Ile	Lys
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Val	Leu	Lys	Leu	Lys	Pro	Leu	Ile	Thr	Val	Asp	Pro	Asp	Asp	Arg	Trp
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Arg	Arg	Ile	Phe	Pro	Met	Ser	Phe	Val	Phe	Cys	Ile	Asn	Ile	Val	Leu
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Gly	Asn	Val	Ser	Leu	Arg	Tyr	Ile	Pro	Val	Ser	Phe	Met	Gln	Thr	Ile
					100				105					110	
Lys	Ser	Phe	Thr	Pro	Ala	Thr	Thr	Val	Val	Leu	Gln	Trp	Leu	Val	Trp
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Gly	Gly	Ile	Leu	Leu	Thr	Ser	Val	Thr	Glu	Leu	Ser	Phe	Asn	Met	Phe
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Gly	Phe	Cys	Ala	Ala	Leu	Phe	Gly	Cys	Leu	Ala	Thr	Ser	Thr	Lys	Thr
						165			170					175	
Ile	Leu	Ala	Glu	Ser	Leu	Leu	His	Gly	Tyr	Lys	Phe	Asp	Ser	Ile	Asn
						180			185					190	
Thr	Val	Tyr	Tyr	Met	Ala	Pro	Phe	Ala	Thr	Met	Ile	Leu	Ala	Leu	Pro
					195			200						205	
Ala	Met	Leu	Leu	Glu	Gly	Asn	Gly	Ile	Leu	Asp	Trp	Leu	Asn	Thr	His
					210			215			220				
Pro	Tyr	Pro	Trp	Ser	Ala	Leu	Ile	Ile	Ile	Phe	Ser	Ser	Gly	Val	Leu
					225			230			235			240	
Ala	Phe	Cys	Leu	Asn	Phe	Ser	Ile	Phe	Tyr	Val	Ile	His	Ser	Thr	Thr
						245			250					255	
Ala	Val	Thr	Phe	Asn	Val	Ala	Gly	Asn	Leu	Lys	Val	Ala	Val	Ala	Val
						260			265					270	
Leu	Val	Ser	Trp	Leu	Ile	Phe	Arg	Asn	Pro	Ile	Ser	Tyr	Leu	Asn	Ala
					275			280						285	
Val	Gly	Cys	Ala	Val	Thr	Leu	Val	Gly	Cys	Thr	Phe	Tyr	Gly	Tyr	Val
					290			295				300			
Arg	His	Met	Leu	Ser	Gln	Gln	Pro	Pro	Val	Pro	Gly	Thr	Pro	Arg	Thr
					305			310			315			320	

Pro Arg Thr Pro Arg Ser Lys Met Glu Leu Leu Pro Leu Val Asn Asp
325 330 335
Lys Leu Glu Asp Lys Val
340